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101. Did Information Amount Matter in Framing Effect?

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Abstract

Framing the product attribute(s) in either positive or negative way can result in different responses. This phenomenon is referred to attribute framing effect. This article reported results from a laboratory experiment which examines the influence of message framing and information amounts on Internet buyers' judgments. The amount of information was defined in terms of the number of attribute information of the target product. The result indicated significant framing effects no matter how much attribute information was presented. Positive information leads to more favorable responses than negative information. In addition, respondents who were exposed to more amounts of positive information showed more favorable evaluations than those who were exposed to less amounts of positive information condition. However, more amounts of negative information did not result in less favorable responses.

Keywords: Framing effect, information amount, decision making, laboratory experiment

Introduction

A rational decision maker should make indifferent judgment no matter how the decision problem was framed. However, there exist some decision problems in which people systematically violate the rationality. For example, Tversky and Kahneman (1981) described the same Asian disease problem in terms of either the likelihood of lives saved (positive frame) or the likelihood of lives lost (negative frame). The results indicated that the relative attractiveness of options varies when the same decision problem is framed in different ways. Tversky and Kahneman (1981) further suggested that people are more willing to take risks with negatively framed outcomes than with positively framed outcomes.

The influence of framed messages on decision makers is especially important for on-line organizations because business is conducted at a distance and uncertainties are magnified. Specifically, customers can't look at sales' clerk in the eye, can't size up the physical space of a store or office, and can't see and touch products. In effect, they have to rely heavily on images and product information provided by the Web sites. As a result, consumers have no choice but to make decisions under limited information, which is a source of uncertainty and thus leads to decision bias. Therefore, the way information is presented may have significant impact on Internet buyers' purchase decisions. Accordingly, the first goal of current study is to examine the influence of messages which were framed either positively or negatively on Internet buyer's evaluation of a target product-an electronic translator in current study.

This study also aims to explore the framing effect in situations with varying amounts of information. The amount of information considered was defined in terms of the number of attributes of the electronic translator. It is expected that individuals who were presented with more information would make more extreme judgments than subjects in less information condition. Specifically, more favorable responses would be observed when the participants were provided with more amounts of positive information than subjects provided with less amounts of positive information. Further, the object would be responded to less favorable by participants who were presented with more amounts of negative information than those were presented with less amounts of negative information.

Theoretical Background

Attribute Framing Effect

Attribute framing effect refers to the situation in which individuals' judgments vary as a function of the labels used to define specific object attributes (Johnson and Levin, 1985; Levin, Johnson, Russo, and Deldin, 1985). For example, in Levin and Gaeth's (1988) study the ground beef was framed as either "75% lean" or "25% fat" and was presented to two groups of subjects. The results indicated that the participants' evaluations were more favorable when the beef was described in percent-lean than was described in percent-fat. Other studies (e.g., Kramer, 1989; Loke and Tan, 1992; Levin, Schneider, and Gaeth, 1998; Levin, Gaeth, Schreiber, and Lauriola, 2002) also demonstrated similar findings that the same alternative was rated more favorable when a key attribute is framed in positive terms than when framed negatively.

Levin (1987) suggests that attribute framing effects occur because positively or negatively framed information is believed to be associated with favorable or unfavorable encoding. That is, subjects' favorable associations in memory can be evoked by the positive labeling of an attribute. In contrast, when the information was labeled negatively, unfavorable associations in memory were evoked and thus resulted in less favorable responses.

Based on the above discussion, we proposed that:

H₁: The target product would be responded to more favorable when the attribute(s) was framed positively than negatively.

Amount of Attribute Information

Amount of attribute information is believed to be associated with the decision makers' judgmental quality. For example, Slovic and Lichtenstein (1971) indicated that decision quality decreases with the increase of attributes after a certain level of complexity has been reached. The idea is that people can be "overloaded" with information. Unfortunately, studies that investigate the influence of attribute amount in framing effect are rare. In deed, most of the attribute framing studies were limited to only one key attribute (e.g., Levin and Gaeth, 1988; Krishnamurthy, Carter, and Blair, 2001; Levin et al., 2002).

Levin et al.'s (1985) study is one of the early published examples that examined the framing effects with varying amounts of information. In their study, the participants were presented with either one or two attribute information in each of the three tasks (gambling, consumer judgment, and student evaluation task). Results from their study indicated that significant framing effect was observed in two-attribute condition where the responses were more favorable in the positive condition than in the negative condition. The same result was observed in one-attribute condition that the stimuli are alternatively expressed in positive or

negative terms. However, no framing effects occurred when the presented attribute was the same in both conditions (e.g., the price of the meat in both positive and negative condition was the same).

The attribute amount in above study involve only up to two attributes, which is a rather small number. Moreover, only one of the two attributes was framed by valence, whereas the other attribute information remains neutral. Thus, the answer to the question that what will happen when varying amounts of positive or negative attributes were presented to the individuals at the same time is unknown. According to information integration theory (IIT, Anderson, 1981), the information was integrated (i.e., averaged or summed) by individuals to form a final response. Because the impact of information amount on individuals' decision making has been rarely documented in past literatures, we postulate the following two hypotheses:

H₂₋₁: The occurrence of framing effect will not be influenced by the information amount.

H₂₋₂: The occurrence of framing effect will be influenced by the information amount.

Experiment

The experiment aims to understand the framing effect with varying amounts of information. Thus, participants in different conditions were presented with information that involves different amounts of attribute information. One hundred and eighty undergraduate students participated the experiment in partial fulfillment of a class requirement and each participant received a NT \$100 (about USD 3.5) McDonald coupon and a chance to win an iPod for their participation.

Design and Manipulation

The experiment is a 3 (attribute information: single attribute/three attributes/five attributes) × 2 (framing: positive/negative) between-subjects factorial design. Subjects were assigned to one of the six conditions randomly and were asked to answer some questions measuring their attitude toward the target product and their intention to buy the product. There are thirty participants in each treatment condition. The target product is an electronic translator and the product information is provided as follows: "YiShen is the latest electronic translator equipped with all the functions that can be found in most of the powerful products on the market. In addition, it offers built-in English→Chinese (or Mandarin) and Chinese→English two-way full text translation. You can type in English in sentence and it will be translated into Chinese. You can write Chinese in sentence and YiShen will also translate it in English. This device will serve most society groups especially students, foreign languages learners, businessmen, secretaries, and travelers." Five attributes were selected and framed positively and negatively: the accuracy of translation, vocabulary, pronunciation, weight, and enhanced expanded memory and vocabulary.

Measurement

Participants were asked to rate their attitudes toward the electronic translator and their intention to buy it. Attitude was measured by three-item semantic differential on a 7-point scale, which included three pairs of adjectives: bad/good, unattractive/ attractive, and unlikable/likable. Further, subjects were asked to rate their intention to buy the electronic translator on a 7-point Likert scale regarding the following three questions: (1) I intent to buy this electronic translator; (2) I will recommend my friends buying this electronic translator; (3) I will consider to buy this electronic translator if I have already had one. For later analysis, ratings of the three items in attitude and intention to buy were averaged respectively into a single item.

Result

Separate 3 (attribute information: single attribute/three attributes/five attributes) \times 2 (framing: positive/negative) ANOVA tests were conducted in which participants' responses on attitude and buying intention were dependent variables. The results indicated that significant main effect was observed for message frame manipulation on both attitude ($F(1, 174)=37.302$, $p<0.001$) and intention to buy ($F(1, 174)=34.381$, $p<0.001$). Mean scores on attitude and buying intention in positive condition are significantly higher than that in negative condition. Thus, H_1 was supported. Main effect for amounts of attribute (attitude: $F(2, 174)=0.169$, ns ; intention: $F(2, 174)=0.105$, ns) and interaction effect of framing and amounts of attribute (attitude: $F(2, 174)=2.755$, ns ; intention: $F(2, 174)=1.845$, ns) were not significant. Therefore, participants' responses on both dependent variables should be similar among conditions with different amounts of attributes.

Responses of participants in positive and negative condition were further examined when the product information involved one, three and five attributes respectively. The result revealed significant framing effects in almost all of the attribute conditions. That is, participants' responses in positive condition are significantly different from that in negative information regardless how many amounts of information were presented. More favorable responses were observed in positive condition than that in negative condition.

Means of two dependent variables in different information amount conditions were compared when the information were framed positively or negatively. The result indicated that different amounts of information did not result in significantly different responses in both positive and negative conditions.

Further, the relationship between participants' responses and the amounts of negative information is worth to be notified. The most favorable response occurred in three-negative attribute condition, and the single-negative attribute resulted in the least favorable attitude. The highest intention to buy was resulted in five-negative condition, and the lowest in single-negative condition.

Conclusions and Discussion

The results of present article add to the body of literature considering the influence of message framing and information amount on consumers' buying decisions. The main findings in current study were summarized as follows.

First, significant framing effect was observed regardless of the amounts of attribute information were presented. When the attribute information increases, the framing effect remains significant.

Second, more positive attribute information results in more favorable responses. The favorableness of responses, however, did not depend on the amounts of negative attribute information. In fact, product described by three negative attributes is rated to be more favorable than the same product described in one negative attribute. In addition, five-negative information resulted in the highest buying intention. Thus, the number of attributes was considered as one of the cues of product judgment.

The most basic contributions of this study come from investigating information amount in attribute framing effect. Most of the studies examining attribute framing effect focus on

single attribute. This research is one of the few studies considering different amounts of product attributes as possible sources of framing effect.

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